

5        providing a data flow at the first protocol layer as data packets of the first protocol  
6 layer;  
7        releasing data from the first protocol layer [are released] to the second protocol  
8 layer in the transmitter[,];  
9        dividing the data of the first protocol layer [are divided] into consecutive data  
10 packets of the second protocol layer[,] by generating a sequence of data packets with a  
11 sequence number, wherein a data packet of the second protocol layer contains data from  
12 only one data packet of the first protocol layer;  
13        transmitting the data packets of the second protocol layer [are transmitted] to the  
14 receiver via the communication network[,];  
15        sorting received data packets of the second protocol layer [received in] at the  
16 receiver [are sorted] according to the [transmitted] sequence[,] of the data packets;  
17        allocating received [the] data packets [received are allocated] of the second  
18 protocol layer to data packets of the first protocol layer on the second protocol layer[,];  
19 and  
20        upon a data packet of the first protocol layer [has been] being completely  
21 generated[, said] from a group of data packets of the second protocol layer allocated to  
22 the first protocol layer, examining said completely generated data packet for an  
23 association to a data flow, and releasing said completely generated data packet [is  
24 released] to the first protocol layer.

1           3.       (Amended) Method according to claim 1 [or 2] wherein the data packets  
2 of the second protocol layer are numbered consecutively and marked by a corresponding  
3 sequence number

1           4.       (Amended) Method according to [one of claims] claim 1 [to 3], wherein  
2 the first protocol layer supports at least two transmission modes, a reliable and an  
3 unreliable mode.

1           6.       (Amended) Method according to [one of claims] claim 1 [to 5], wherein  
2 the data of the first protocol layer are clearly differentiated from each other by means of  
3 separators.

4           8.       (Amended) Method according to claim 3 [or 7], wherein the sequence  
5 number is an RLP (Radio Link Protocol) sequence number or an RLC (Radio Link  
6 Control) sequence number.

1           9.       (Amended) Method according to [one of the preceding claims] claim 1 [to  
2 8], wherein the received data packets are stored in a buffer of the receiver.

1           10.      (Amended) Method according to [one of claims] claim 1 [to 9], wherein a  
2 data packet of the first protocol layer is brought into a status of a completely generated  
3 data packet, if both the initial and the end mark within data packets of the second

4 protocol layer have correctly been received, and if all data packets of the second protocol  
5 layer lying in between have correctly been received according to their correct sequence.

1 11. (Amended) Method according to [one of claims] claim 1 [to 10], wherein  
2 the completely generated data packets of the first protocol layer are examined according  
3 to the rules of an encapsulating process, for identifying packets of additional protocol  
4 layers.

1 12. (Amended) Method according to [one of claims] claim 1[ to 11], wherein  
2 at least one control field comprising control data is provided in the completely generated  
3 data packets of the first protocol layer, for delivering the information in view of a  
4 pertinent data flow.

1 14. (Amended) Method according to [one of claims] claim 1 [ to 13], wherein  
2 a data flow is differentiated by means of certain control data in the control fields provided  
3 therefor.

1 16. (Amended) Method according to [one of claims] claim 1 [to 15], wherein  
2 the data packets of the first protocol layer are directly released to the first protocol layer  
3 on the second protocol layer, if the data packets on the second protocol layer have firstly  
4 been received completely and correctly, and if secondly it has been guaranteed that the  
5 data possibly buffered by the receiver of the second protocol layer do not contain  
6 additional data packets of the first protocol layer belonging to the same data flow of the  
7 data packets of the first protocol layer to be released.

1           17.    (Amended) Method according to [one of claims] claim 1 [to 15], wherein  
2   on the second protocol layer the data packets of the first protocol layer are directly  
3   released to the first protocol layer, if said data packets have been received completely and  
4   correctly.

1           22.    (Amended) Method according to [claims 18 to] claim 21, wherein an  
2   internet application is transmitted by means of the transport protocol Transmission  
3   Control Protocol (TCP).

1           23.    (Amended) Method according to [claims 18 to] claim 21, wherein an  
2   internet application is transmitted by means of the transport protocol User Datagram  
3   Protocol (UDP).

1           24.    (Amended) Device for improving a processing time of received data in  
2   packet oriented applications in a data transmission of data flows between a transmitter  
3   and a receiver, each [with] transmission comprising a first and a second protocol layer via  
4   a communication network, said device comprising:

5                   means for providing data packets of a first protocol layer to a second  
6   protocol layer, wherein the data of the first protocol layer is divided into consecutive data  
7   packets of the second protocol layer by generating a sequence of data packets with a  
8   sequence number, and wherein a data packet of the second protocol layer contains data  
9   from only one data packet of the first protocol layer;

10                   transmitting means for transmitting the data packets[,] of the second  
11 protocol layer;  
12                   receiving means for receiving the transmitted data packets[,];  
13                   [sorting] means for sorting the received data packets [into a] according to  
14 the sequence of [consecutive] the data packets, and for allocating the received data  
15 packets to data packets of the first protocol layer on the second protocol layer;  
16                   recognizing means for recognizing that a [completely combined] data  
17 packet of the first protocol layer[,] has been completely generated from a group of data  
18 packets of the second protocol layer allocated to the first protocol layer;  
19                   means for examining [the] said completely generated data packet for an  
20 association [of the data packets] to [the] a data flow[,] and  
21                   releasing means for releasing said [a] completely generated data packet to  
22 the first protocol layer.

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ATTACHMENT A

Clean copy of amended claims for Amendment A

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1 1. (Amended) Method for improving a processing time of received data in  
2 packet oriented applications in a data transmission of data flows between a transmitter and a  
3 receiver, each transmission comprising a first and a second protocol layer via a  
4 communication network, wherein said method comprises:  
5 providing a data flow at the first protocol layer as data packets of the first  
6 protocol layer;  
7 releasing data from the first protocol layer to the second protocol layer in the  
8 transmitter;  
9 dividing the data of the first protocol layer into consecutive data packets of  
10 the second protocol layer by generating a sequence of data packets with a sequence number,  
Al 11 wherein a data packet of the second protocol layer contains data from only one data packet  
12 of the first protocol layer;  
13 transmitting the data packets of the second protocol layer to the receiver via  
14 the communication network;  
15 sorting received data packets of the second protocol layer at the receiver  
16 according to the sequence of the data packets;  
17 allocating received data packets of the second protocol layer to data packets  
18 of the first protocol layer on the second protocol layer; and  
19 upon a data packet of the first protocol layer being completely generated  
20 from a group of data packets of the second protocol layer allocated to the first protocol layer,

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- 21 examining said completely generated data packet for an association to a data flow, and  
22 releasing said completely generated data packet to the first protocol layer.

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1 3. (Amended) Method according to claim 1 wherein the data packets of the  
2 second protocol layer are numbered consecutively and marked by a corresponding sequence  
3 number

1 4. (Amended) Method according to claim 1, wherein the first protocol layer  
2 supports at least two transmission modes, a reliable and an unreliable mode.

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1 6. (Amended) Method according to claim 1, wherein the data of the first  
2 protocol layer are clearly differentiated from each other by means of separators.

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1 8. (Amended) Method according to claim 3, wherein the sequence number is an  
2 RLP (Radio Link Protocol) sequence number or an RLC (Radio Link Control) sequence  
3 number.

1 9. (Amended) Method according to claim 1, wherein the received data packets  
2 are stored in a buffer of the receiver.

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1 10. (Amended) Method according to claim 1, wherein a data packet of the first  
2 protocol layer is brought into a status of a completely generated data packet, if both the  
3 initial and the end mark within data packets of the second protocol layer have correctly been  
4 received, and if all data packets of the second protocol layer lying in between have correctly  
5 been received according to their correct sequence.

1 11. (Amended) Method according to claim 1, wherein the completely generated  
2 data packets of the first protocol layer are examined according to the rules of an  
3 encapsulating process, for identifying packets of additional protocol layers.

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1 12. (Amended) Method according to claim 1, wherein at least one control field  
2 comprising control data is provided in the completely generated data packets of the first  
3 protocol layer, for delivering the information in view of a pertinent data flow.

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a5  
1 14. (Amended) Method according to claim 1, wherein a data flow is  
2 differentiated by means of certain control data in the control fields provided therefor.

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1 16. (Amended) Method according to claim 1, wherein the data packets of the first  
2 protocol layer are directly released to the first protocol layer on the second protocol layer, if  
3 the data packets on the second protocol layer have firstly been received completely and  
4 correctly, and if secondly it has been guaranteed that the data possibly buffered by the  
5 receiver of the second protocol layer do not contain additional data packets of the first  
6 protocol layer belonging to the same data flow of the data packets of the first protocol layer  
7 to be released.



1 17. (Amended) Method according to claim 1, wherein on the second protocol  
2 layer the data packets of the first protocol layer are directly released to the first protocol  
3 layer, if said data packets have been received completely and correctly.

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1 22. (Amended) Method according to claim 21, wherein an internet application is  
2 transmitted by means of the transport protocol Transmission Control Protocol (TCP).

1 23. (Amended) Method according to claim 21, wherein an internet application is  
2 transmitted by means of the transport protocol User Datagram Protocol (UDP).

1 24. (Amended) Device for improving a processing time of received data in  
2 packet oriented applications in a data transmission of data flows between a transmitter and a  
3 receiver, each transmission comprising a first and a second protocol layer via a  
4 communication network, said device comprising:

5 means for providing data packets of a first protocol layer to a second protocol  
6 layer, wherein the data of the first protocol layer is divided into consecutive data packets of  
7 the second protocol layer by generating a sequence of data packets with a sequence number,  
8 and wherein a data packet of the second protocol layer contains data from only one data  
9 packet of the first protocol layer;

10 transmitting means for transmitting the data packets of the second protocol  
11 layer;

12 receiving means for receiving the transmitted data packets;

13 means for sorting the received data packets according to the sequence of the  
14 data packets, and for allocating the received data packets to data packets of the first protocol  
15 layer on the second protocol layer;  
16 recognizing means for recognizing that a data packet of the first protocol  
17 layer has been completely generated from a group of data packets of the second protocol  
18 layer allocated to the first protocol layer;  
19 means for examining said completely generated data packet for an  
20 association to a data flow; and  
21 releasing means for releasing said completely generated data packet to the  
22 first protocol layer.